

Skills

Experimental

Low-Noise Analog and Digital Electronics, Cryogenics (dilution refrigerator and He3 cryostats), Electron Beam and UV Lithography, Chemical Vapor Deposition, Thin Film Deposition, Atomic and Electric Force Microscopy

Analysis

Python, UNIX, git, LaTeX, Design of Experiment

Teaching

- Extensive experience as a teaching assistant including Electricity and Magnetism, Classical Mechanics, Modern Physics, Statistical Mechanics, and Quantum Mechanics.
- Two years as head teaching assistant, leading group of 5-10 TAs, in General Physics I+II.
- Awarded Rowland Prize for Innovation and Excellence in Teaching at JHU in 2011
- Supervised many undergraduate interns as a post-doc at UBC and graduate student at JHU. Projects ranged from a successful home-built ALD reactor to customized RPI-based measurement electronics.

Publications and Talks

Author

Kondo-like Behavior in Monolayer CVD Graphene at Low Temperatures

Silvia Lüscher, Nikolaus Hartman, Hyungki Shin, Ebrahim Sajadi, Ali Khademi, Joshua Folk
(IN PREP).

Direct entropy measurement in a mesoscopic quantum system

Nikolaus Hartman, Christian Olsen, Silvia Lüscher, Mohammad Samani, Saeed Fallahi, Geoffrey C Gardner, Michael Manfra, Joshua Folk
Nature Physics (2018).

Measurement of critical currents of superconducting aluminum nanowires in external magnetic fields: Evidence for a Weber blockade

T. Morgan-Wall, B. Leith, N. Hartman, A. Rahman, N. Marković
Physical Review Letters 114, 077002 (2015).

Fabrication of sub-15 nm aluminum wires by controlled etching

T. Morgan-Wall, H. J. Hughes, N. Hartman, T. M. McQueen, N. Marković
Applied Physics Letters 104, 173101 (2014).

Synthesis and alignment of discrete polydiacetylene-peptide nanostructures

S. R. Diegelmann, N. Hartman, N. Marković, J. D. Tovar
Journal of the American Chemical Society 134, 2028–2031 (2012).

Speaker

Quantum Computing: From Transistors to Quantum Supremacy

N. Hartman
Nerd Nite YVR—Vancouver, BC, Canada (June 2018).

Direct Entropy Measurement in a Mesoscopic Quantum System

N. Hartman, C. Olsen, S. Luescher, M. Samani, S. Fallahi, G. Gardner, M. Manfra, J. Folk
Condensed Matter Seminar—Stanford University, CA, USA (March 2018).

Suppressed Conductance From Spin-Selection Rules in F-CNT-F Quantum Dots

N. Hartman, T. Morgan-Wall, N. Marković
APS March Meeting—Baltimore, MD, USA (March 2016).

Charge and Spin Transport in Carbon Nanotube Quantum Dots

N. Hartman, N. Marković
Condensed Matter Seminar—University of California Santa Barbara, CA, USA (June 2015).